

## ABSTRACT OF THE DISCLOSURE

There are provided a positioning-controlling apparatus with improved accuracy and durability and a positioning-controlling method, which are free from abnormal noises and pulsating velocity caused by changes in torque which occur while a subject is being moved after the completion of the subject's origin returning operation.

The rotary encoder (2) should detect the Z phase in advance before the subject (4) is returned to the origin which is the position of the Z phase detected by the linear encoder (5). The driving mode of the servo motor (1) is switched from rectangular waveform pulse driving to sine waveform pulse driving upon the detection of the Z phase by the rotary encoder (2). Thus, after the subject (4) has returned to the origin, the subject (4) is moved by always driving the servo motor (1) according to sine waveform pulses. Otherwise, such arrangement is also possible in which the subject's moving direction for returning to the origin is previously specified, and in which the detection of the ON state of the origin sensor (11), the detection of the Z phase by the rotary encoder (2), and the detection of the Z phase by the linear encoder (5) are done in this order, while the subject (4) is being moved in the above specified direction. Alternatively, the rotary encoder (2) may detect the CS phase instead of the Z phase.

10025890-122601